

REMARKS

Claims 1, 3, 4 and 6-9, as amended, remain herein. Support for the amendment to claims 1 and 9 can be found, for example, in the specification at p.3, line 36-p.4, line 14; and p.5, lines 3-12. Support for the amendment to claim 7 can be found, for example, in the specification at p.3, lines 24-26 (stating that the ring is rotatable with respect to the hub “in this embodiment” implies that in another embodiment, the ring may be fixed with respect to the hub). Support for the amendment to claim 8 can be found, for example, in the specification at p.3, lines 19-22 (the device may be mounted to a cooling air evacuation pipe without any notable modification).

This Amendment is believed to place this application fully in condition for allowance, and surely in better condition for any appeal. Thus, entry of this Amendment and allowance of all claims 1, 3, 4 and 6-9 are respectfully requested.

1. Claims 1, 3, 4 and 6-9 are rejected under 35 U.S.C. § 103(a) over Heath U.S. Patent 5,941,069 and Browne U.S. Patent 2,518,660. Heath discloses a fan downstream of a combustion chamber for sucking exhaust from the combustion chamber. The Office Action admits that Heath fails to disclose a hub with an opening therein for permitting substantially unidirectional flow of exhaust gases through the dilution and dispersion device, as recited in applicants’ amended claims 1 and 9. Heath further fails to disclose a ring encircling the hub and blades affixed to the ring. The Office Action cites bushing 16 as being a ring. But bushing 16 does not have blades affixed to it, rather bushing 16 is a surface for interacting with the axle 32. See Heath, col. 3, lines 33-34, 42-43.

Heath further fails to disclose blades fixed to a ring, for radially dispersing exhaust gases, such that the blades mix output flows of gases through said opening and said blades to dilute a

temperature profile of such exhaust gases. Heath lacks any opening, so blades in Heath cannot mix any output flows to disperse gases.

Browne fails to disclose what Heath lacks. Browne discloses an aircraft engine comprising a turbofan with a hub and blades. The hub has holes around an outer portion for preventing cracks in welds. See Browne, col. 12, lines 59-71. Browne fails to disclose a hub with an opening therein for permitting substantially unidirectional flow of exhaust gases through the dilution and dispersion device, as recited in applicants' amended claims 1 and 9. The Office Action cites Browne, col. 12, lines 19-67 as disclosing this feature. However, nothing in these passages indicates that the holes are for passing exhaust. The holes 234 of Browne are not for permitting substantially unidirectional flow of exhaust gases. They are of such a small size relative to the size of the turbofan that their effect on a flow of exhaust gases would be negligible. Further, since they are designed to rotate at high velocities with the hub, they would not produce a unidirectional flow of gas, as required by applicants' claims 1 and 9.

Browne further fails to disclose a ring encircling the hub and blades affixed to the ring. Rather, in Browne, the blades are affixed directly to the hub. Browne further fails to disclose blades fixed to a ring, for radially dispersing exhaust gases, such that the blades mix output flows of gases through said opening and said blades to dilute a temperature profile of such exhaust gases. As discusses previously, the holes 234 of Browne are small relative to the size of the hub and rotate with the hub, so that they would not have any significant effect on the flow of exhaust gases, as required by applicants' claims 1 and 9.

Regarding claim 3, neither Heath nor Browne disclose a number of openings a diameter of the openings, and an arrangement of the openings, corresponds to a predetermined permeability

level of said device. The openings of Browne are for preventing weld cracks. See Browne, col. 12, lines 59-71. They have no relationship to a predetermined permeability of the turbofan, as required in applicants' claim 3.

Regarding claim 6, neither Heath nor Browne discloses a ring that is rotatable with respect to the hub. Rather in Heath, the bushing 16 is part of the hub. The hub and bushing rotate with respect to the axle, rather than with respect to each other. See Heath, col. 3, lines 44-47.

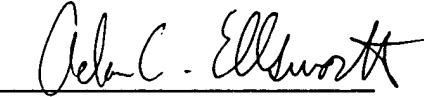
Nor would it have been obvious to one of ordinary skill in the art to modify or combine Heath and Browne to render obvious applicants' claims. Specifically, the holes 234 of Browne are for preventing welding cracks that would form between fan blades. See Browne, col. 12, lines 59-71. Neither Browne nor Heath contains any disclosure that would have motivated one of ordinary skill in the art to put holes in the hub of Heath. Heath contains no disclosure that fan blades need to be welded to the hub, that the stresses on the fan blades would make such holes necessary, or that any benefit could be derived from forming holes in the long, narrow hub of Heath.

Since Heath and Browne combined fail to disclose every element of applicants' claims 1, 3, 6 and 9, and since it would not have been obvious to one of ordinary skill in the art to combine Heath and Browne to render obvious applicants' claims, Heath and Browne are inadequate grounds for rejecting claims 1, 3, 4 and 6-9 under 35 U.S.C. § 103(a). Reconsideration and withdrawal of the rejection are respectfully requested.

Accordingly, all claims 1, 3, 4, 6 and 7-9 are now fully in condition for allowance and a notice to that effect is respectfully requested. The PTO is hereby authorized to charge/credit any fee deficiencies or overpayments to Deposit Account No. 19-4293. If further amendments would place this application in even better condition for issue, the Examiner is invited to call applicants' undersigned attorney at the number listed below.

Respectfully submitted,

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